

NATURAL RESOURCES & WILDLIFE MANAGEMENT STANDARDS



This document was prepared by:

Office of Career, Technical and Adult Education
Nevada Department of Education
755 N. Roop Street, Suite 201
Carson City, NV 89701

Adopted by the State Board of Education /
State Board for Career and Technical Education on
December 14, 2012

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The Office of Career, Technical and Adult Education is dedicated to developing innovative educational opportunities for students to acquire skills for productive employment and lifelong learning.

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ACKNOWLEDGEMENTS

The development of the Nevada Career and Technical Standards project was a collaborative effort sponsored by the Office of Career, Technical and Adult Education at the Department of Education and the Career and Technical Education Consortium of States. The Department of Education must rely on teachers and industry representatives who have the technical expertise and teaching experience to develop standards and performance indicators that truly measure student skill attainment. Most important, however, is recognition of the time, expertise and great diligence provided by the writing team members in developing the Career and Technical Standards for Natural Resources & Wildlife Management.

STANDARDS DEVELOPMENT MEMBERS

Don Noorda, Agriculture Instructor
Wells High School, Wells

Michelle Burrows, Agriculture Instructor
Academy of Arts, Careers & Technology, Reno

Kristina Moore, Agriculture Instructor
Churchill High School, Fallon

Tracy Shane, Agriculture Instructor
Great Basin College, Elko

John McLain, Firm Principal
Resource Concepts, Inc., Carson City

Ed Smith, Natural Resource Specialist
University of Nevada Cooperative Extension, Minden

BUSINESS AND INDUSTRY VALIDATION

All CTE standards developed through the Nevada Department of Education are validated by business and industry through one or more of the following processes: (1) the standards are developed by a team consisting of business and industry representatives; or (2) a separate review panel was coordinated with industry experts to ensure the standards include the proper content; or (3) the adoption of nationally-recognized standards endorsed by business and industry.

The Natural Resources & Wildlife Management standards were validated through active participation of business and industry representatives on the development team and validated through a complete review by an industry panel.

PROJECT COORDINATOR

Sue Poland, Education Programs Professional
Agriculture Education
Office of Career, Technical and Adult Education
Nevada Department of Education

AGRICULTURE AND NATURAL RESOURCES

Program Requirements

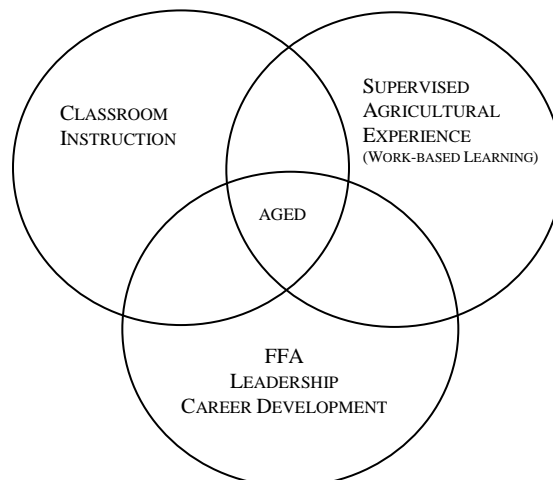
Occupations associated with agriculture production, natural resources, processing and distribution of food and fiber are important to the national interests and provide significant employment opportunities. Occupational education and training in agriculture and agri-business are essential to the continued economic health of Nevada and the nation, as it provides the needed competent and trained work force.

Agriculture education provides high school students with technical and specialized knowledge in production agriculture and natural resources as well as other specific agriculture occupations. The programs are designed to meet students' occupational objectives, interests, and abilities for entry into chosen occupations and can prepare them for advanced education and training. Agriculture education is a coordinated program of group and individual instructional activities consisting of classroom instruction, laboratory experiences, and leadership development. Integral to these activities are FFA (leadership development) and Supervised Agricultural Experience (work-based learning), Nevada Revised Statute 385.110. Federal/Public law#105-225 which was passed in August, 1998, states "Congress of the United States recognizes the importance of the FFA as an integral part of the program of Vocational Agriculture." All students enrolled in Agriculture Education will be recognized as members of the FFA organization. All secondary agriculture education programs and school districts will purchase a curriculum packet consisting of the New Horizons agriculture career and technical magazine, the FFA manual, and the Nevada Record Book on a yearly basis for every student enrolled in agriculture education in their program. Areas of study at the secondary level are divided into Agriculture Science and Specialized Advanced Agriculture Career and Technical Areas.

Agriculture and Society, Plant and Soil Science, Agriculture Mechanical Engineering and Technology, Animal Science, Leadership/FFA, Agriculture Business, Sales, Marketing and Supervised Agriculture Experience, Natural Resources, and Employability are included in the Agriculture Science introduction division.

Instruction in business/specialized agriculture provides training in specific occupational skills, duties, and tasks, as determined by the business and industry needs. Specialized career and technical agriculture programs will include, but are not limited to, the following: ornamental horticulture, floriculture design, turf and landscape management, equine science and technology, forestry technology, wildlife management and enforcement, food science and processing, feedlot management, animal science, veterinary science, agriculture power systems, natural resources and reclamation, mining science and operations, nursery and greenhouse management, landscape architecture, irrigation and chemical management, lawn care and maintenance, and agriculture construction

NEVADA AGRICULTURE EDUCATION Model of Instruction



INTRODUCTION

The standards in this document are designed to clearly state what the student should know and be able to do upon completion of an advanced high school program for Natural Resources & Wildlife Management. These standards are designed for a three-credit course sequence that prepares the student for a technical assessment directly aligned to the standards.

These exit-level standards are designed for the student to complete all standards through their completion of a program of study. These standards are intended to guide curriculum objectives for a program of study.

The standards are organized as follows:

Content Standards are general statements that identify major areas of knowledge, understanding, and the skills students are expected to learn in key subject and career areas by the end of the program.

Performance Standards follow each content standard. Performance standards identify the more specific components of each content standard and define the expected abilities of students within each content standard.

Performance Indicators are very specific criteria statements for determining whether a student meets the performance standard. Performance indicators may also be used as learning outcomes, which teachers can identify as they plan their program learning objectives.

The crosswalk and alignment section of the document shows where the performance indicators support the English Language Arts and Mathematics Common Core State Standards, and the Nevada State Science Standards. Where correlation with an academic standard exists, students in the Natural Resources & Wildlife Management program perform learning activities that support, either directly or indirectly, achievement of one or more Common Core State Standards.

All students are encouraged to participate in the career and technical student organization (CTSO) that relates to their program area. CTSOs are co-curricular national associations that directly enforce learning in the CTE classroom through curriculum resources, competitive events, and leadership development. CTSOs provide students the ability to apply academic and technical knowledge, develop communication and teamwork skills, and cultivate leadership skills to ensure college and career readiness.

The Employability Skills for Career Readiness identify the “soft skills” needed to be successful in all careers, and must be taught as an integrated component of all CTE course sequences. These standards are available in a separate document.

CONTENT STANDARD 1.0 : EXPLORE NATURAL RESOURCE SCIENCE AND MANAGEMENT**PERFORMANCE STANDARD 1.1 : INVESTIGATE THE RELATIONSHIP BETWEEN NATURAL RESOURCES AND SOCIETY, INCLUDING CONFLICT MANAGEMENT**

- | | |
|-------|---|
| 1.1.1 | Define natural resource management |
| 1.1.2 | Identify and compare major natural resource management agencies and companies |
| 1.1.3 | Describe human dependency and demands on natural resources |
| 1.1.4 | Explain natural resource conservation |
| 1.1.5 | Investigate the effects of multiple uses of natural resources (e.g., recreation, mining, agriculture, forestry, public lands grazing, etc.) |
| 1.1.6 | Analyze societal issues related to natural resource management |

PERFORMANCE STANDARD 1.2 : EXPLAIN INTERRELATIONSHIPS BETWEEN NATURAL RESOURCES AND HUMANS IN MANAGING NATURAL ENVIRONMENTS

- | | |
|-------|--|
| 1.2.1 | Explain the effects and/or trade-off of population growth, greater energy consumption, and increased technology and development on natural resources and the environment |
| 1.2.2 | Explain the effects and/or trade-offs of traditional consumptive uses of renewable natural resources (e.g., logging, grazing, hunting) |
| 1.2.3 | Assess the responsibility of individuals in stewardship of the environment |
| 1.2.4 | Research and debate one or more current issues related to the conservation or preservation of natural resources |

PERFORMANCE STANDARD 1.3 : RESEARCH THE HISTORY OF CONSERVATION IN THE UNITED STATES

- | | |
|-------|--|
| 1.3.1 | Summarize the history of natural resource conservation |
| 1.3.2 | Critique the national policies that impact natural resource conservation |

CONTENT STANDARD 2.0 : INVESTIGATE ECOLOGICAL CONCEPTS AND SCIENCE PRINCIPLES RELATED TO NATURAL RESOURCE SYSTEMS

PERFORMANCE STANDARD 2.1 : EXPLORE ECOLOGICAL PRINCIPLES IN NATURAL RESOURCE MANAGEMENT

- 2.1.1 Describe the interdependence of organisms within an ecosystem (i.e., food chains and webs)
- 2.1.2 Investigate the processes associated with ecological succession
- 2.1.3 Investigate the processes associated with State-and-Transition models
- 2.1.4 Explain the importance of biodiversity
- 2.1.5 Summarize how natural processes have been altered (e.g., invasives, exotics, fire intervals, etc.)
- 2.1.6 Define and determine resiliency of ecosystems

PERFORMANCE STANDARD 2.2 : DESCRIBE BIOLOGICAL, PHYSICAL, AND CHEMICAL PROPERTIES OF SOIL

- 2.2.1 Summarize soil formation factors
- 2.2.2 Examine chemical and biological characteristics of soil
- 2.2.3 Diagram soil profiles
- 2.2.4 Determine soil classification
- 2.2.5 Perform and analyze a soil test
- 2.2.6 Visually and physically identify soil types
- 2.2.7 Analyze a soil survey
- 2.2.8 Recognize the relationship between vegetation and soil types
- 2.2.9 Learn to identify ecological sites
- 2.2.10 Describe soil erosion and prevention methods

PERFORMANCE STANDARD 2.3 : EXPLORE PRINCIPLES OF HYDROLOGY

- 2.3.1 Define watersheds and explain their hydrological and ecological function
- 2.3.2 Discriminate between point and nonpoint pollution sources
- 2.3.3 Compare and contrast groundwater and surface water flow measurement methods
- 2.3.4 Conduct and analyze water quality tests
- 2.3.5 Describe the functions of wetlands
- 2.3.6 Illustrate the importance of wetland management
- 2.3.7 Research laws and regulations governing water pollution

CONTENT STANDARD 3.0 : EXPLORE PRINCIPLES OF RANGELAND MANAGEMENT**PERFORMANCE STANDARD 3.1 : ANALYZE THE INTERRELATIONSHIPS BETWEEN RANGE MANAGEMENT AND OTHER NATURAL RESOURCE ACTIVITIES**

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|-------|---|
| 3.1.1 | Compare and contrast range and rangeland |
| 3.1.2 | Identify the major rangeland types in Nevada |
| 3.1.3 | Identify characteristics of healthy rangeland |
| 3.1.4 | Assess different methods of rangeland improvement |
| 3.1.5 | Compare public and private use of rangeland |

PERFORMANCE STANDARD 3.2 : IDENTIFY COMMON NEVADA RANGELAND PLANTS

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|-------|--|
| 3.2.1 | Identify morphological characteristics of grasses, grass-like plants, forbs and woody plants |
| 3.2.2 | Construct dichotomous key for range plants |
| 3.2.3 | Assemble a plant collection using proper mounting techniques |
| 3.2.4 | Identify important Nevada rangeland plants and evaluate their use by animals |

PERFORMANCE STANDARD 3.3 : APPLY RANGELAND MONITORING PRACTICES

- | | |
|-------|--|
| 3.3.1 | Describe various range sampling methods and the attributes measured by those samples |
| 3.3.2 | Determine stocking rates based on animal demand and forage supply |
| 3.3.3 | Evaluate a rangeland scenario, and develop a management plan for improvement |
| 3.3.4 | Review important laws affecting rangelands (e.g., Wild Horse and Burro Act, FLPMA, etc.) |

CONTENT STANDARD 4.0 : EXAMINE FOREST RESOURCES AND MANAGEMENT**PERFORMANCE STANDARD 4.1 : IDENTIFY IMPORTANT FOREST AND WOODLAND TYPES IN NEVADA**

- | | |
|-------|--|
| 4.1.1 | Compare piñon-juniper woodland locations to mixed conifer forests locations |
| 4.1.2 | Identify where cottonwood/aspen forests would be located by ecological site descriptions |

PERFORMANCE STANDARD 4.2 : INVESTIGATE FOREST ECOLOGY

- | | |
|-------|--|
| 4.2.1 | Investigate the effects of wildlife on forest ecology |
| 4.2.2 | Examine the role of grazing on forest ecology |
| 4.2.3 | Predict the effect of fire on forest ecology |
| 4.2.4 | Analyze the effects of disease and insects on forest ecology |

CONTENT STANDARD 5.0 : UNDERSTAND FIRE ECOLOGY DYNAMICS**PERFORMANCE STANDARD 5.1 : EXPLORE THE EFFECTS OF FIRE ON THE ECOSYSTEM**

- | | |
|-------|---|
| 5.1.1 | List the three components of the fire triangle |
| 5.1.2 | Discuss the fire behavior triangle (fuel, weather, and topography) |
| 5.1.3 | Interpret the factors affecting fire frequency today in Nevada |
| 5.1.4 | Describe the social, economic and ecological effects of wildland fire |

PERFORMANCE STANDARD 5.2 : ASSESS FUEL MANAGEMENT TECHNIQUES

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|-------|--|
| 5.2.1 | Define the fire cycle |
| 5.2.2 | Connect the relationship between fuel loading and fire intensity |
| 5.2.3 | Compare the factors that affect the fire cycle |
| 5.2.4 | Examine the role of fuel management in an ecosystem, including mechanical, herbicide, grazing and prescribed fire treatments |

CONTENT STANDARD 6.0 : UNDERSTAND THE IMPORTANCE AND APPLICATION OF GPS/GIS IN NATURAL RESOURCE MANAGEMENT**PERFORMANCE STANDARD 6.1 : INVESTIGATE GPS/GIS SYSTEMS AND THEIR APPLICATIONS**

- | | |
|-------|---|
| 6.1.1 | Define the uses of geographic information systems (GIS) and spatial analysis as it applies to natural resource management |
| 6.1.2 | Describe the purpose and function of a Global Positioning System (GPS) |
| 6.1.3 | Demonstrate the ability to use a GPS unit by navigating and collecting waypoints |

PERFORMANCE STANDARD 6.2 : DEMONSTRATE THE USE OF LAND MANAGEMENT MAPS

- | | |
|-------|---|
| 6.2.1 | Use legal descriptions to identify locations and acreage |
| 6.2.2 | Identify symbols on topographical maps |
| 6.2.3 | Predict terrain based on topographical maps |
| 6.2.4 | Demonstrate the ability to find GPS locations on a topographic map |
| 6.2.5 | Using computerized mapping systems such as Google Earth, identify and describe components of a particular location, e.g., topography, potential vegetation, elevation |

CONTENT STANDARD 7.0 : INVESTIGATE FISH AND WILDLIFE ECOLOGY**PERFORMANCE STANDARD 7.1 : EXPLORE THE IMPORTANCE AND DISTRIBUTION OF FISH AND WILDLIFE RESOURCES IN NEVADA**

- | | |
|-------|---|
| 7.1.1 | Identify the seven categories of wildlife (big game, fur bearers, predators, upland game, waterfowl, fish and non-game) |
| 7.1.2 | Connect the distribution of wildlife associated with various habitats in Nevada |
| 7.1.3 | Describe the importance of wildlife, including indigenous and migratory species, their physical and behavioral characteristics, habitat, and management |
| 7.1.4 | List impacts on wildlife habitat |
| 7.1.5 | Describe techniques used in the harvesting of wildlife |
| 7.1.6 | Describe techniques used in the processing of wildlife |
| 7.1.7 | Summarize appropriate hunting and fishing safety practices |

PERFORMANCE STANDARD 7.2 : EXAMINE THE VALUE OF RIPARIAN AREAS ON WILDLIFE MANAGEMENT

- | | |
|-------|--|
| 7.2.1 | Define riparian habitat |
| 7.2.2 | Compare riparian habitat characteristics and uses to upland habitat characteristics and uses |
| 7.2.3 | Differentiate between riparian habitat management strategies |

PERFORMANCE STANDARD 7.3 : EXAMINE THE ENDANGERED SPECIES ISSUES

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|-------|--|
| 7.3.1 | Differentiate between threatened and endangered species management strategies |
| 7.3.2 | Explore the listing process under the Endangered Species Act (ESA) and what it takes to delist a species |
| 7.3.3 | Identify the agency and their jurisdiction for implementation of ESA |
| 7.3.4 | Summarize a case history of an endangered species as it relates to socioeconomic impacts |

CONTENT STANDARD 8.0 : EXAMINE THE USE OF RENEWABLE AND NONRENEWABLE RESOURCES AND MANAGEMENT**PERFORMANCE STANDARD 8.1 : EXAMINE MINERAL RESOURCES AND MANAGEMENT**

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|-------|---|
| 8.1.1 | Identify local mineral resources |
| 8.1.2 | Summarize the importance of mineral resources to society |
| 8.1.3 | Compare the various practices for obtaining mineral resources |
| 8.1.4 | Evaluate the impact of mining practices on the environment |
| 8.1.5 | Compare processes for reclaiming areas where minerals have been extracted |

PERFORMANCE STANDARD 8.2 : RECOGNIZE THE TYPES AND IMPORTANCE OF ENERGY RESOURCES

- | | |
|-------|--|
| 8.2.1 | Differentiate between renewable and nonrenewable energy resources |
| 8.2.2 | Investigate types of renewable energy resources |
| 8.2.3 | Compare types of electrical power generation |
| 8.2.4 | Identify the different natural resources for energy production |
| 8.2.5 | Analyze positive and negative impacts of energy development on the environment |

CONTENT STANDARD 9.0 : EXPLORE CAREER OPPORTUNITIES IN THE NATURAL RESOURCES AND WILDLIFE MANAGEMENT FIELDS**PERFORMANCE STANDARD 9.1 : UNDERSTAND EMPLOYMENT FIELDS IN THE NATURAL RESOURCE MANAGEMENT INDUSTRY**

- | | |
|-------|--|
| 9.1.1 | List and describe the types of employment opportunities in natural resource management |
| 9.1.2 | Explore education and training for different natural resource management careers |
| 9.1.3 | Understand the process of choosing a career path in the natural resource management industry |

CONTENT STANDARD 10.0 : PARTICIPATE IN LEADERSHIP TRAINING THROUGH MEMBERSHIP IN FFA**PERFORMANCE STANDARD 10.1 : RECOGNIZE THE TRAITS OF EFFECTIVE LEADERS AND PARTICIPATE IN LEADERSHIP TRAINING THROUGH INVOLVEMENT IN FFA**

- | | |
|--------|--|
| 10.1.1 | Expand leadership experience by serving as a chapter officer or on a committee |
| 10.1.2 | Exhibit leadership skills by demonstrating proper parliamentary procedure |
| 10.1.3 | Participate in a career development event at the local level or above |

PERFORMANCE STANDARD 10.2 : UNDERSTAND THE IMPORTANCE OF SCHOOL AND COMMUNITY AWARENESS

- | | |
|--------|--|
| 10.2.1 | Participate in a school improvement or community development project |
|--------|--|

CONTENT STANDARD 11.0 : DESCRIBE THE RELATIONSHIP BETWEEN A SUPERVISED AGRICULTURAL EXPERIENCE (SAE) AND PREPARATION OF STUDENTS FOR A CAREER IN AGRICULTURE**PERFORMANCE STANDARD 11.1 : MAINTAIN A SUPERVISED AGRICULTURAL EXPERIENCE**

- | | |
|--------|--|
| 11.1.1 | Accurately maintain SAE record books |
| 11.1.2 | Apply for a proficiency award related to the SAE program area |
| 11.1.3 | Actively pursue necessary steps to receive higher degrees in FFA |

**CROSSWALK AND ALIGNMENTS OF
NATURAL RESOURCES & WILDLIFE MANAGEMENT STANDARDS
AND THE COMMON CORE STATE STANDARDS,
THE NEVADA SCIENCE STANDARDS,
AND THE COMMON CAREER TECHNICAL CORE STANDARDS**

CROSSWALK (ACADEMIC STANDARDS)

The crosswalk of the Natural Resources & Wildlife Management Standards shows links to the Common Core State Standards for English Language Arts and Mathematics and the Nevada Science Standards. The crosswalk identifies the performance indicators in which the learning objectives in the Natural Resources & Wildlife Management program support academic learning. The performance indicators are grouped according to their content standard and are crosswalked to the English Language Arts and Mathematics Common Core State Standards and the Nevada Science Standards.

ALIGNMENTS (MATHEMATICAL PRACTICES)

In addition to correlation with the Common Core Mathematics Content Standards, many performance indicators support the Common Core Mathematical Practices. The following table illustrates the alignment of the Natural Resources & Wildlife Management Standards Performance Indicators and the Common Core Mathematical Practices. This alignment identifies the performance indicators in which the learning objectives in the Natural Resources & Wildlife Management program support academic learning.

CROSSWALK (COMMON CAREER TECHNICAL CORE)

The crosswalk of the Natural Resources & Wildlife Management Standards shows links to the Common Career Technical Core. The crosswalk identifies the performance indicators in which the learning objectives in the Natural Resources & Wildlife Management program support the Common Career Technical Core. The Common Career Technical Core defines what students should know and be able to do after completing instruction in a program of study. The Natural Resources & Wildlife Management Standards are crosswalked to the Agriculture, Food & Natural Resources Career Cluster[™] and the Natural Resources Systems Career Pathway.

**CROSSWALK OF NATURAL RESOURCES & WILDLIFE MANAGEMENT
STANDARDS
AND THE COMMON CORE STATE STANDARDS**

CONTENT STANDARD 1.0: EXPLORE NATURAL RESOURCE SCIENCE AND MANAGEMENT

Performance Indicators	Common Core State Standards and Nevada Science Standards
1.1.3	<u>Science: Nature of Science</u> N.12.B.2 Students know consumption patterns, conservation efforts, and cultural or social practices in countries have varying environmental impacts.
1.1.4	<u>Science: Nature of Science</u> N.12.B.2 Students know consumption patterns, conservation efforts, and cultural or social practices in countries have varying environmental impacts.
1.1.5	<u>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</u> WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research. <u>Science: Nature of Science</u> N.12.B.1 Students know science, technology, and society influenced one another in both positive and negative ways. N.12.B.2 Students know consumption patterns, conservation efforts, and cultural or social practices in countries have varying environmental impacts. N.12.B.3 Students know the influence of ethics on scientific enterprise. N.12.B.4 Students know scientific knowledge builds on previous information.
1.1.6	<u>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</u> WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research.
1.2.1	<u>English Language Arts: Speaking and Listening Standards</u> SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks. <u>Science: Nature of Science</u> N.12.B.1 Students know science, technology, and society influenced one another in both positive and negative ways. N.12.B.2 Students know consumption patterns, conservation efforts, and cultural or social practices in countries have varying environmental impacts.
1.2.2	<u>English Language Arts: Speaking and Listening Standards</u> SL.11-12.1d Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task. <u>Science: Nature of Science</u> N.12.B.1 Students know science, technology, and society influenced one another in both positive and negative ways. N.12.B.2 Students know consumption patterns, conservation efforts, and cultural or social practices in countries have varying environmental impacts.

1.2.3	<p><u>English Language Arts: Speaking and Listening Standards</u></p> <p>SL.11-12.1a Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.</p> <p>SL.11-12.1b Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed.</p> <p>SL.11-12.1c Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives.</p> <p>SL.11-12.1d Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.</p> <p>SL.11-12.4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks.</p> <p>SL.11-12.5 Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.</p> <p><u>Science: Nature of Science</u></p> <p>N.12.B.2 Students know consumption patterns, conservation efforts, and cultural or social practices in countries have varying environmental impacts.</p>
1.3.1	<p><u>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</u></p> <p>RST.11-12.2 Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.</p> <p><u>Science: Nature of Science</u></p> <p>N.12.B.4 Students know scientific knowledge builds on previous information.</p>
1.3.2	<p><u>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</u></p> <p>RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p><u>Science: Nature of Science</u></p> <p>N.12.B.1 Students know science, technology, and society influenced one another in both positive and negative ways.</p>

**CONTENT STANDARD 2.0: INVESTIGATE ECOLOGICAL CONCEPTS AND SCIENCE PRINCIPLES
RELATED TO NATURAL RESOURCE SYSTEMS**

Performance Indicators	Common Core State Standards and Nevada Science Standards
2.1.1	<p><u>Science: Life Science</u></p> <p>L.12.C.1 Students know relationships of organisms and their physical environment.</p> <p>L.12.C.2 Students know how changes in an ecosystem can affect biodiversity and biodiversity's contribution to an ecosystem's stability.</p> <p>L.12.C.3 Students know the amount of living matter an environment can support is limited by the availability of matter, energy, and the ability of the ecosystem to recycle materials.</p>
2.1.2	<p><u>Science: Life Science</u></p> <p>L.12.C.1 Students know relationships of organisms and their physical environment.</p> <p>L.12.C.2 Students know how changes in an ecosystem can affect biodiversity and biodiversity's contribution to an ecosystem's stability.</p> <p>L.12.C.3 Students know the amount of living matter an environment can support is limited by the availability of matter, energy, and the ability of the ecosystem to recycle materials.</p>
2.1.3	<p><u>Science: Life Science</u></p> <p>L.12.C.1 Students know relationships of organisms and their physical environment.</p> <p>L.12.C.2 Students know how changes in an ecosystem can affect biodiversity and biodiversity's contribution to an ecosystem's stability.</p> <p>L.12.C.3 Students know the amount of living matter an environment can support is limited by the availability of matter, energy, and the ability of the ecosystem to recycle materials.</p>
2.1.4	<p><u>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</u> RST.11-12.2 Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.</p> <p><u>Science: Life Science</u></p> <p>L.12.C.1 Students know relationships of organisms and their physical environment.</p> <p>L.12.C.2 Students know how changes in an ecosystem can affect biodiversity and biodiversity's contribution to an ecosystem's stability.</p> <p>L.12.C.3 Students know the amount of living matter an environment can support is limited by the availability of matter, energy, and the ability of the ecosystem to recycle materials.</p> <p>L.12.C.4 Students know the unique geologic, hydrologic, climatic, and biological characteristics of Nevada's bioregions.</p>
2.1.5	<p><u>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</u> RST.11-12.2 Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.</p> <p><u>Science: Life Science</u></p> <p>L.12.C.1 Students know relationships of organisms and their physical environment.</p> <p>L.12.C.2 Students know how changes in an ecosystem can affect biodiversity and biodiversity's contribution to an ecosystem's stability.</p> <p>L.12.C.3 Students know the amount of living matter an environment can support is limited by the availability of matter, energy, and the ability of the ecosystem to recycle materials.</p> <p>L.12.C.4 Students know the unique geologic, hydrologic, climatic, and biological characteristics of Nevada's bioregions.</p>

2.2.1	<p><u>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</u> RST.11-12.2 Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.</p> <p><u>Science: Earth and Space</u> E.12.C.3 Students know elements exist in fixed amounts and move through solid earth, oceans, atmosphere and living things as part of biogeochemical cycles.</p> <p>E.12.C.5 Students know soil, derived from weathered rocks and decomposed organic material, is found in layers.</p> <p><u>Science: Life Science</u> L.12.C.1 Students know relationships of organisms and their physical environment.</p> <p>L.12.C.2 Students know how changes in an ecosystem can affect biodiversity and biodiversity's contribution to an ecosystem's stability.</p> <p>L.12.C.3 Students know the amount of living matter an environment can support is limited by the availability of matter, energy, and the ability of the ecosystem to recycle materials.</p>
2.2.2	<p><u>Science: Earth and Space</u> E.12.C.3 Students know elements exist in fixed amounts and move through solid earth, oceans, atmosphere and living things as part of biogeochemical cycles.</p> <p><u>Science: Life Science</u> L.12.C.3 Students know the amount of living matter an environment can support is limited by the availability of matter, energy, and the ability of the ecosystem to recycle materials.</p>
2.2.3	<p><u>Science: Earth and Space</u> E.12.C.3 Students know elements exist in fixed amounts and move through solid earth, oceans, atmosphere and living things as part of biogeochemical cycles.</p> <p><u>Science: Life Science</u> L.12.C.3 Students know the amount of living matter an environment can support is limited by the availability of matter, energy, and the ability of the ecosystem to recycle material</p>
2.2.5	<p><u>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</u> RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.</p> <p><u>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</u> WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p> <p><u>Science: Life Science</u> L.12.C.3 Students know the amount of living matter an environment can support is limited by the availability of matter, energy, and the ability of the ecosystem to recycle materials.</p> <p><u>Science: Nature of Science</u> N.12.A.4 Students know how to safely conduct an original scientific investigation using the appropriate tools and technology.</p>
2.2.7	<p><u>Science: Nature of Science</u> N.12.A.2 Students know scientists maintain a permanent record of procedures, data, analyses, decisions, and understandings of scientific investigations.</p> <p>N.12.A.5 Students know models and modeling can be used to identify and predict cause-effect relationships.</p>
2.2.8	<p><u>Science: Life Science</u> L.12.C.1 Students know relationships of organisms and their physical environment.</p> <p>L.12.C.2 Students know how changes in an ecosystem can affect biodiversity and biodiversity's contribution to an ecosystem's stability.</p> <p>L.12.C.3 Students know the amount of living matter an environment can support is limited by the availability of matter, energy, and the ability of the ecosystem to recycle materials.</p>

2.2.9	<p><u>Science: Life Science</u> L.12.C.1 Students know relationships of organisms and their physical environment. L.12.C.2 Students know how changes in an ecosystem can affect biodiversity and biodiversity's contribution to an ecosystem's stability. L.12.C.3 Students know the amount of living matter an environment can support is limited by the availability of matter, energy, and the ability of the ecosystem to recycle materials.</p>
2.3.1	<p><u>Science: Life Science</u> L.12.C.2 Students know how changes in an ecosystem can affect biodiversity and biodiversity's contribution to an ecosystem's stability. L.12.C.4 Students know the unique geologic, hydrologic, climatic, and biological characteristics of Nevada's bioregions. <u>Science: Earth and Space</u> E.12.C.3 Students know elements exist in fixed amounts and move through solid earth, oceans, atmosphere and living things as part of biogeochemical cycles. E.12.C.4 Students know processes of obtaining, using, and recycling of renewable and non-renewable resources.</p>
2.3.3	<p><u>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</u> RST.11-12.2 Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms. RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11–12 texts and topics.</p>
2.3.4	<p><u>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</u> RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information. <u>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</u> WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. <u>Science: Life Science</u> L.12.C.1 Students know relationships of organisms and their physical environment. L.12.C.2 Students know how changes in an ecosystem can affect biodiversity and biodiversity's contribution to an ecosystem's stability. <u>Science: Nature of Science</u> N.12.A.4 Students know how to safely conduct an original scientific investigation using the appropriate tools and technology.</p>
2.3.5	<p><u>Science: Life Science</u> L.12.C.1 Students know relationships of organisms and their physical environment.. L.12.C.4 Students know the unique geologic, hydrologic, climatic, and biological characteristics of Nevada's bioregions.</p>
2.3.6	<p><u>Science: Life Science</u> L.12.C.1 Students know relationships of organisms and their physical environment. L.12.C.2 Students know how changes in an ecosystem can affect biodiversity and biodiversity's contribution to an ecosystem's stability. L.12.C.3 Students know the amount of living matter an environment can support is limited by the availability of matter, energy, and the ability of the ecosystem to recycle materials. L.12.C.4 Students know the unique geologic, hydrologic, climatic, and biological characteristics of Nevada's bioregions.</p>

CONTENT STANDARD 3.0: EXPLORE PRINCIPLES OF RANGELAND MANAGEMENT

Performance Indicators	Common Core State Standards and Nevada Science Standards
3.1.2	<u>Science: Life Science</u> L.12.C.4 Students know the unique geologic, hydrologic, climatic, and biological characteristics of Nevada's bioregions.
3.1.3	<u>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</u> RST.11-12.2 Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms. <u>Science: Life Science</u> L.12.C.2 Students know how changes in an ecosystem can affect biodiversity and biodiversity's contribution to an ecosystem's stability. L.12.C.3 Students know the amount of living matter an environment can support is limited by the availability of matter, energy, and the ability of the ecosystem to recycle materials.
3.1.4	<u>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</u> RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
3.2.2	<u>Science: Nature of Science</u> N.12.A.2 Students know scientists maintain a permanent record of procedures, data, analyses, decisions, and understandings of scientific investigations.
3.3.1	<u>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</u> RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. <u>Science: Nature of Science</u> N.12.A.2 Students know scientists maintain a permanent record of procedures, data, analyses, decisions, and understandings of scientific investigations. N.12.A.3 Students know repeated experimentation allows for statistical analysis and unbiased conclusions. N.12.A.4 Students know how to safely conduct an original scientific investigation using the appropriate tools and technology. N.12.A.5 Students know models and modeling can be used to identify and predict cause-effect relationships.
3.3.2	<u>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</u> RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible. <u>Science: Life Science</u> L.12.C.3 Students know the amount of living matter an environment can support is limited by the availability of matter, energy, and the ability of the ecosystem to recycle materials. <u>Science: Nature of Science</u> N.12.A.5 Students know models and modeling can be used to identify and predict cause-effect relationships.

3.3.3	<u>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</u>	
	RST.11-12.3	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
	RST.11-12.9	Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.
	<u>Science: Nature of Science</u>	
	N.12.B.4	Students know scientific knowledge builds on previous information.

CONTENT STANDARD 4.0: EXAMINE FOREST RESOURCES AND MANAGEMENT

4.1.1	<u>Science: Life Science</u> L.12.C.4 Students know the unique geologic, hydrologic, climatic, and biological characteristics of Nevada's bioregions.
4.1.2	<u>Science: Life Science</u> L.12.C.1 Students know relationships of organisms and their physical environment.
4.2.1	<u>Science: Life Science</u> L.12.C.1 Students know relationships of organisms and their physical environment. L.12.C.2 Students know how changes in an ecosystem can affect biodiversity and biodiversity's contribution to an ecosystem's stability.
4.2.2	<u>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</u> WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research. <u>Science: Life Science</u> L.12.C.1 Students know relationships of organisms and their physical environment. L.12.C.2 Students know how changes in an ecosystem can affect biodiversity and biodiversity's contribution to an ecosystem's stability.
4.2.3	<u>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</u> WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation. <u>Science: Life Science</u> L.12.C.2 Students know how changes in an ecosystem can affect biodiversity and biodiversity's contribution to an ecosystem's stability.
4.2.4	<u>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</u> WHST.11-12.9 Draw evidence from informational texts to support analysis, reflection, and research. <u>Science: Life Science</u> L.12.B.3 Students know disease disrupts the equilibrium that exists in a healthy organism. L.12.C.2 Students know how changes in an ecosystem can affect biodiversity and biodiversity's contribution to an ecosystem's stability.

CONTENT STANDARD 5.0: UNDERSTAND FIRE ECOLOGY DYNAMICS

Performance Indicators	Common Core State Standards and Nevada Science Standards
5.1.3	<p><u>English Language Arts: Reading Standards for Literacy in Science and Technical Subjects</u> RST.11-12.2 Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms.</p>
5.1.4	<p><u>Science: Life Science</u> L.12.C.2 Students know how changes in an ecosystem can affect biodiversity and biodiversity's contribution to an ecosystem's stability.</p>
5.2.2	<p><u>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</u> WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><u>Science: Physical Science</u> P.12.A.5 Students know chemical reactions can take place at different rates, depending on a variety of factors (i.e. temperature, concentration, surface area, and agitation).</p>
5.2.4	<p><u>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</u> WHST.11-12.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the specific task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.</p> <p><u>Science: Life Science</u> L.12.C.2 Students know how changes in an ecosystem can affect biodiversity and biodiversity's contribution to an ecosystem's stability.</p>

**CONTENT STANDARD 6.0: UNDERSTAND THE IMPORTANCE AND APPLICATION OF GPS/GIS IN
NATURAL RESOURCE MANAGEMENT**

Performance Indicators	Common Core State Standards and Nevada Science Standards	
6.1.1	<u>Science: Nature of Science</u>	
	N.12.A.1	Students know tables, charts, illustrations and graphs can be used in making arguments and claims in oral and written presentations.
	N.12.A.2	Students know scientists maintain a permanent record of procedures, data, analyses, decisions, and understandings of scientific investigations.
6.1.3	<u>Science: Nature of Science</u>	
	N.12.A.4	Students know how to safely conduct an original scientific investigation using the appropriate tools and technology.
6.2.5	<u>Science: Nature of Science</u>	
	N.12.A.1	Students know tables, charts, illustrations and graphs can be used in making arguments and claims in oral and written presentations.
	N.12.A.2	Students know scientists maintain a permanent record of procedures, data, analyses, decisions, and understandings of scientific investigations.

CONTENT STANDARD 7.0: INVESTIGATE FISH AND WILDLIFE ECOLOGY

Performance Indicators	Common Core State Standards and Nevada Science Standards
7.1.2	<u>Science: Life Science</u> L.12.C.4 Students know the unique geologic, hydrologic, climatic, and biological characteristics of Nevada's bioregions.
7.1.3	<u>Science: Life Science</u> L.12.C.1 Students know relationships of organisms and their physical environment. L.12.C.2 Students know how changes in an ecosystem can affect biodiversity and biodiversity's contribution to an ecosystem's stability. L.12.C.3 Students know the amount of living matter an environment can support is limited by the availability of matter, energy, and the ability of the ecosystem to recycle materials. L.12.C.4 Students know the unique geologic, hydrologic, climatic, and biological characteristics of Nevada's bioregions.
7.2.2	<u>Science: Life Science</u> L.12.C.1 Students know relationships of organisms and their physical environment. L.12.C.2 Students know how changes in an ecosystem can affect biodiversity and biodiversity's contribution to an ecosystem's stability. L.12.C.4 Students know the unique geologic, hydrologic, climatic, and biological characteristics of Nevada's bioregions.
7.3.1	<u>Science: Life Science</u> L.12.D.4 Students know the extinction of species can be a natural process..
7.3.2	<u>Science: Nature of Science</u> N.12.A.1 Students know tables, charts, illustrations and graphs can be used in making arguments and claims in oral and written presentations. N.12.A.2 Students know scientists maintain a permanent record of procedures, data, analyses, decisions, and understandings of scientific investigations.
7.3.4	<u>Science: Nature of Science</u> N.12.A.5 Students know models and modeling can be used to identify and predict cause-effect relationships. <u>Science: Nature of Science</u> N.12.B.1 Students know science, technology, and society influenced one another in both positive and negative ways. N.12.B.4 Students know scientific knowledge builds on previous information. <u>Science: Life Science</u> L.12.D.4 Students know the extinction of species can be a natural process.

**CONTENT STANDARD 8.0: EXAMINE THE USE OF RENEWABLE AND NONRENEWABLE RESOURCES
AND MANAGEMENT**

Performance Indicators	Common Core State Standards and Nevada Science Standards
8.1.1	<p><u>Science: Life Science</u> L.12.C.4 Students know the unique geologic, hydrologic, climatic, and biological characteristics of Nevada's bioregions.</p> <p><u>Science: Earth and Space</u> E.12.C.4 Students know processes of obtaining, using, and recycling of renewable and non-renewable resources.</p>
8.1.2	<p><u>Science: Nature of Science</u> N.12.B.1 Students know science, technology, and society influenced one another in both positive and negative ways.</p>
8.1.4	<p><u>Science: Life Science</u> L.12.C.2 Students know how changes in an ecosystem can affect biodiversity and biodiversity's contribution to an ecosystem's stability.</p>
8.1.5	<p><u>Science: Life Science</u> L.12.C.2 Students know how changes in an ecosystem can affect biodiversity and biodiversity's contribution to an ecosystem's stability.</p>
8.2.1	<p><u>Science: Earth and Space</u> E.12.C.4 Students know processes of obtaining, using, and recycling of renewable and non-renewable resources.</p>
8.2.2	<p><u>Science: Earth and Space</u> E.12.C.4 Students know processes of obtaining, using, and recycling of renewable and non-renewable resources.</p>
8.2.3	<p><u>Science: Physical Science</u> P.12.C.2 Students know energy forms can be converted.</p> <p>P.12.C.6 Students know electricity is transferred from generating sources for consumption and practical uses.</p>
8.2.4	<p><u>Science: Physical Science</u> P.12.C.2 Students know energy forms can be converted.</p> <p>P.12.C.6 Students know electricity is transferred from generating sources for consumption and practical uses.</p>
8.2.5	<p><u>Science: Life Science</u> L.12.C.2 Students know how changes in an ecosystem can affect biodiversity and biodiversity's contribution to an ecosystem's stability.</p> <p>L.12.C.3 Students know the amount of living matter an environment can support is limited by the availability of matter, energy, and the ability of the ecosystem to recycle materials.</p>

CONTENT STANDARD 9.0: EXPLORE CAREER OPPORTUNITIES IN NATURAL RESOURCES & WILDLIFE MANAGEMENT

Performance Indicators	Common Core State Standards and Nevada Science Standards
9.1.1	<u>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</u> WHST.11-12.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

CONTENT STANDARD 10.0: PARTICIPATE IN LEADERSHIP TRAINING THROUGH MEMBERSHIP IN FFA

Performance Indicators	Common Core State Standards and Nevada Science Standards
10.1.1	<u>English Language Arts: Speaking and Listening Standards</u> SL.11-12.1b Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed.
10.1.2	<u>English Language Arts: Speaking and Listening Standards</u> SL.11-12.1b Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed.
10.1.3	<u>English Language Arts: Speaking and Listening Standards</u> SL.11-12.1b Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed.

CONTENT STANDARD 11.0: DESCRIBE THE RELATIONSHIP BETWEEN A SUPERVISED AGRICULTURAL EXPERIENCE (SAE) AND PREPARATION OF STUDENTS FOR A CAREER IN AGRICULTURE

Performance Indicators	Common Core State Standards and Nevada Science Standards
11.1.1	<u>English Language Arts: Language Standards</u> L.11-12.2b Spell correctly. <u>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</u> WHST.11-12.3 (See note; not applicable as a separate requirement)
11.1.2	<u>English Language Arts: Writing Standards for Literacy in Science and Technical Subjects</u> WHST.11-12.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. <u>English Language Arts: Language Standards</u> L.11-12.2b Spell correctly.

**ALIGNMENT OF NATURAL RESOURCES & WILDLIFE MANAGEMENT
STANDARDS
AND THE COMMON CORE MATHEMATICAL PRACTICES**

Common Core Mathematical Practices	Veterinary Science Performance Indicators
1. Make sense of problems and persevere in solving them.	3.3.1, 3.3.2 10.1.1
2. Reason abstractly and quantitatively.	3.3.1, 3.3.2 10.1.1
3. Construct viable arguments and critique the reasoning of others.	9.1.2
4. Model with mathematics.	2.2.5, 2.3.4 3.3.1, 3.3.2 6.2.1 10.1.1
5. Use appropriate tools strategically.	2.2.5, 2.3.4 3.3.1, 3.3.2 6.1.1, 6.1.3, 6.2.1, 6.2.4 10.1.1
6. Attend to precision.	2.2.5, 2.3.4 3.3.1, 3.3.2 6.1.1, 6.1.3, 6.2.4
7. Look for and make use of structure.	6.1.2, 6.2.1
8. Look for and express regularity in repeated reasoning.	3.3.1

**CROSSWALKS OF NATURAL RESOURCES & WILDLIFE MANAGEMENT
STANDARDS
AND THE COMMON CAREER TECHNICAL CORE**

Agriculture, Food & Natural Resources Career Cluster™ (AG)	Performance Indicators
1. Analyze how issues, trends, technologies and public policies impact systems in the Agriculture, Food & Natural Resources Career Cluster™.	1.1.2, 1.1.5, 1.3.2; 2.3.7 3.1.5, 3.3.4; 6.1.2 7.3.1-7.3.3
2. Evaluate the nature and scope of the Agriculture, Food & Natural Resources Career Cluster™ and the role of agriculture, food and natural resources (AFNR) in society and the economy.	1.1.3, 1.1.5, 1.1.6, 1.2.1-1.2.4, 1.3.1; 5.1.4 7.3.4; 8.1.2; 10.2.1
3. Examine and summarize the importance of health, safety and environmental management systems in AFNR businesses.	2.3.2; 7.1.7 8.1.5, 8.2.5
4. Demonstrate stewardship of natural resources in AFNR activities.	1.2.3; 2.1.3, 2.1.5, 2.2.10 2.3.6; 3.1.4, 3.3.3 5.2.4; 7.2.3; 8.1.5
5. Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food & Natural Resources Career Pathways.	9.1.1-9.1.3
6. Analyze the interaction among AFNR systems in the production, processing and management of food, fiber and fuel and the sustainable use of natural resources.	2.1.5; 3.3.2; 8.1.4; 11.1.1
Natural Resources Systems Career Pathway (AG-NR)	Performance Indicators
1. Plan and conduct natural resource management activities that apply logical, reasoned and scientifically based solutions to natural resource issues and goals.	2.3.4; 3.1.4, 3.3.3
2. Analyze the interrelationships between natural resources and humans.	1.1.3, 1.2.1-1.2.4, 1.3.2 3.3.4; 4.2.1, 4.2.2 5.1.4; 7.3.3
3. Develop plans to ensure sustainable production and processing of natural resources.	8.1.3, 8.1.4
4. Demonstrate responsible management procedures and techniques to protect or maintain natural resources.	2.2.10, 2.3.6; 3.1.4 5.2.4; 6.1.3; 8.1.5